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**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/427,457 10/16/99 ANDERSEN

G AFB00497

EXAMINER

MMC2/0104

CHANG, A

ART UNIT

PAPER NUMBER

2872

DATE MAILED:

01/04/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.

09/427,457

Applicant(s)

ANDERSEN, GEOFF P.

Examiner

Audrey Y. Chang

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Remark

1. This Office Action is in response to applicant's amendment filed on October 30, 2000 which has been entered as paper number 7.
2. By this amendment, the applicant has amended claims 1, 2, 7, 12, 15, 18, 21, 32, 33, 36, 37 and 39. The amendment to claim 36 is unclear and consequently the amendment has not been entered. Claims 1-39 remain pending in this application.
3. The rejections to claims 1, 2-7, 9-15, 17-24, 27-32, 35, 37 under 35 USC 112, second paragraph, as set forth in the previous Office Action dated July 28, 2000 are withdrawn in response to applicant's amendment. The rejections to claims 8, 16, 25-26, 33 and 36 under 35 USC 112, second paragraph, set forth in the previous Office Action still hold.
4. The objection to the abstract as set forth in the previous Office Action still holds.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 1-18, and 21-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 2, 15, 18, 21, 32 and 37 have been amended to include the phrase "like (one of) the above" that appears to be vague and indefinite since it is not clear in which way or what feature of the subject is being similar or "like" the "above one". The word "like" adds indefiniteness to the claim language, which makes the scope of the claims unclear. Claims 3-14, 16-17, 22-31, 33-36 inherit the rejection from their respective base claim.

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The phrase "up to ... or more" recited in claims 8, 16, 25-26, and 33 appears to be vague and indefinite since it is not clear what is the definite ranges cited here. This is a repeated rejection from the previous Office Action.

✓ The rejection to claim 36 as set forth in the previous Office Action still holds. It is not clear how does the "array of pinholes" recited in claim 36 relate to the "array of pinholes" recited in its base claim (claim 32). The term "image" recited in claim 32 is referred to "corrected image of said article". It is clearly stated in claim 32 that the article is put in to replace the "array of pinholes" and only then the "image of the article" would be able to form. It is therefore unclear how is the "array of pinholes" placed in the system and still able to obtain the "said image" which presumably is the "image of the article". Clarifications are required.

The rejection to claim 33 concerns the incompleteness as set forth in the previous Office Action still holds.

Clarifications are required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 2-14, 15-17, 18, 19, 20, 21-31, 32-36, 37, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over the article "Window aberration correction in laser velocimetry using multifaceted holographic optical element" by Schock et al, Applied Optics Vol. 23, No. 5, pages 752-756, in view of the patent issued to Friedl (PN. 3,598,466).

The reasons for rejection are set forth in the previous Office Action dated July 28, 2000.

Response to Arguments

9. Applicant's arguments filed on October 30, 2000 have been fully considered but they are not persuasive.

10. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both the Schock et al reference and the Friedl reference teaches to use a holographic element to correct aberrations in an optical system whether the optical system is a cylinder as in Schock et al reference or a lens as in Friedl reference and they both teach the same principle for correcting the aberration in the optical system. Namely, by using the optical system as the object beam for recording the characteristics of the optical system in a hologram and then reconstructing the hologram with the optical system to provide aberration corrected beam or image. It is noted that the principle is the same principle claimed by the instant application for forming the claimed holographic corrector. The applicant argued that the Schock et al reference teaches that the optical system intended for correction is a window and not an objective as claimed however Friedl teaches the correction principle may be applied to any optical system which may include a lens or any other form of the optical system. This teaching of the Friedl reference clearly satisfies the requirement for obviousness in combination of the references and the combination therefore is proper.

In response to applicant's argument which states that the Schock et al reference teaches a different direction (Figure 7) for the reconstruction beam travels to observe an object which therefore is different from the instant application and is unsuitable for microscopic viewing of an article, the examiner respectfully disagrees for the reasons stated below. Figure 7 of Schock et al reference only demonstrates

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a condition to cooperate the recorded hologram with the optical system to obtain an aberration corrected focused beam. The Friedl reference (Figure 1) teaches another way of using the optical system (a lens) with the recorded hologram to obtain aberration corrected image from an object wherein the direction of the reconstruction beam is pointing from the lens (3) to the recorded hologram (5) which is the same direction recited by the instant application. The applicant is then respectfully reminded that the Friedl reference is relied to reject the feature concerning obtaining corrected image. Applicant's arguments concerning microscopic viewing of an article are not found valid since "microscopic viewing of an article" is not a feature claimed in the claims and it is only an intended use of the holographic corrector.

In response to applicant's argument which states that the Friedl reference teaches "to make a hologram from one lens, which is enlarged to a second [hologram], which is used to correct for another lens which can have different aberration than the first" and the "process" is "expansive ... and not random ones" which makes the reference different from the instant application, the examiner respectfully disagrees. Although the statement about the Friedl reference's teachings is correct however this process of enlarging the hologram made from the first lens to a second hologram for correcting a second lens is not relied here for rejecting the claims. Since this process is particular for making a second hologram from the first to correct a second lens of different aberration is not disclosed and claimed by the instant application. The teachings concerning making the first hologram from a first lens in order to combine with the first lens to correct the aberration of the first lens is relied here for rejecting the claims.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703-308-1637. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

A. Chang
January 3, 2001



Audrey Chang
Primary Examiner
Technology Center 2800